C. Ihde

CI505

Final Project

19June2014

Introduction to Welding Incorporating Business Planning, Presentation of a Product, and Collaboration

The project would be introduced to students in an Introductory to Agriculture Course as an introduction to welding and agribusiness. The project could be modified to be used as a final assessment in an Advanced Agriculture Course. The project could be maintained as a portfolio of student work.

Goals of the Project:

* Introduce students to TIG Welding through research and simulation. Research will be conducted in the areas of safety, education and training, welding resources, and supplies. Simulation will occur through online sources or a virtual welder.
* Acquaint students with and/or expand upon students’ skills in designing with Sketchup.
* Develop and improve upon marketing knowledge and skills.
* Familiarize students with the creation and delivering of presentations.
* Cultivate collaboration with teammates, identify positive attributes in teammates, and improve upon oneself as a teammate.

Scenario:

You are the co-owner of “The Better Bead” (or name of your choosing) a welding fabrication and repair shop. You and your partner have been approached by a potential customer interested in hiring your shop to fabricate and manufacture various metal works which showcase the talent of your business. You and your partner must design and build prototypes of metal work which you would like to present to the potential customer, develop a marketing and business plan, and prepare a presentation to the potential customer (the teacher and classmates).

Pedagogical Design:

Student Centered, Divergent Learning, Prior Experience, Some Knowledge, Longer Duration, Somewhat structured, Pairs, Multiple Resources

Activity types:

* Sketch Up, design
* Livebinders/Pinterest, research
* Trades Gamer, interactive game
* Presentation (i.e. Google Presentation, Movie Maker, PowerPoint)
* Welded/Fabricated Prototype, hands-on learning
* Budgets (cost of production, wholesale/retail pricing)

Assessment Strategies:

Students will be assessed on the completed (1) Livebinder, (2) Presentation, and (3) Prototype. The students will also complete a peer-review and self-evaluation. The student Livebinder will be required to have a tab for Projects, Education/Training, Resources, Safety, and Price Guides. Any additional related tabs will be the student’s choice, but will not be graded. Each tab should contain 5 sub tabs with student comments on (1) what they like about the site, (2) why they put the site in the binder, and (3) how they will use the resource. Students will also be assessed on the presentation. The presentation will be assessed based upon creativity, originality, professionalism, and correct business practice. Welding skills will be assessed using the prototypes. A minimum of two prototypes will be supplied, one welded by each student.

Students will perform an evaluation on the completed project, complete a peer review, and self-assessment by submitting reflections.

Possible Grading Rubrics:

Livebinder

<http://www.rcampus.com/rubricshowc.cfm?code=X757XC&sp=yes&>

PowerPoint Presentation

<http://www.sites4teachers.com/links/redirect.php?url=http://smhsmusic.org/Web%20Page/Rubrics/Assessment/PPT%20Rubric.pdf>

Welding Rubric

<http://www.btsd.k12.wi.us/TechEd/HighSchool/WeldingRubric.htm>

Self-evaluation and Peer Review

<http://www.cmu.edu/teaching/assessment/howto/assesslearning/tools/groupselfassessmenttool.pdf>

Tools and Resources:

Research

Livebinders: <http://www.livebinders.com/welcome/home>

Welding

TradesGamer: <http://tradesgamer.com/>

On Fire Welding: <http://www.onfirewelding.com/>

Lincoln Electric Teacher Resources: <http://www.lincolnelectric.com/en-us/education-center/training-materials/Pages/training-materials.aspx>

ESAB Education: <http://www.esabna.com/us/en/education/training/>

Miller Welding: <http://www.millerwelds.com/>

Presentation

Prezi: <http://prezi.com/>

YouTube

PowerPoint

Google Presentation

MovieMaker

Design

SketchUp: <http://www.sketchup.com/>

Business Plans

MPlans: <http://www.mplans.com/sample-marketing-plans.php#.U6HRk75OV9M>

AFNR (Agriculture, Food, and Natural Resources) Standards

CS.01.01. Performance Indicator: Action: Exhibit the skills and competencies needed to achieve a desired result.

CS.01.01.01.a. Work productively with a group or independently.

CS.01.01.01.c. Work independently and in group settings to accomplish a task.

CS.01.01.03.a. Exhibit good planning skills for a specific task or situation.

CS.01.01.06.a. Identify the strengths/talents of team members needed to achieve a desired task.

CS.01.01.06.b. Assign project parts equitably amongst team members to achieve a given task.

CS.01.02. Performance Indicator: Relationships: Build a constituency through listening, coaching, understanding and appreciating others.

CS.01.02.04.a. Identify characteristics of effective teams.

CS.01.02.04.c. Evaluate the effectiveness of team members.

CS.03. Performance Element: Career Success: Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society.

CS.03.01. Performance Indicator: Communication: Demonstrate oral, written and

Verbal skills.

CS.03.01.01.a. Use basic technical and business writing skills.

ABS.02. Performance Element: Utilize appropriate management planning principles in AFNR

Business enterprises.

ABS.02.01. Performance Indicator: Compose and analyze a business plan for an

Enterprise.

ABS.02.01.01.a. Recognize quality AFNR business plan components that have been developed using the SMART (specific, measurable, attainable, realistic and timely) format.

ABS.02.01.01.b. Identify components of business plan and demonstrate how to write such components using the SMART format.

ABS.04.01. Performance Indicator: Use accounting fundamentals to accomplish dependable bookkeeping and fiscal management.

ABS.04.01.01.a. Budget resources, as applied to the AFNR business, including capital, human, financial and time.

ABS.04.01.02.a. Identify financial concepts associated with production and profit.

ABS.06.02. Performance Indicator: Develop a marketing plan.

ABS.06.02.01.a. Identify the purpose, components and developmental processes of marketing plans.

ABS.06.04.01.a. Explain the meaning and use of the four Ps (product, place, price and promotion) in marketing.

ABS.07.01.01.a. Prepare a flowchart that shows production processes, including the resources needed for each step.

PST.04. Performance Element: Plan, build and maintain agricultural structures.

PST.04.04.07.a. Identify kinds and characteristics of metal materials.

PST.04.04.07.b. Distinguish welding processes, positions, and materials preparation.

PST.04.04.07.c. Construct and/or repair metal structures and equipment using welding fabrication procedures, including those associated with SMAW, GMAW, GTAW, fuel-oxygen and plasma arc torch methods.